presentation; zoster and neutrophlic dermatoses were the most common cutaneous manifestations not directly related to NTMs. There was no specific time-sequence in the appearance of zoster, salmonellosis and NTM infections. Three different clinical courses were recorded and most of our patients (75.8%) required long-term anti-mycobacterial therapy.
Conclusions: Despite anti-mycobacterial therapy, the clinical course of most patients with anti-IFN-γ autoantibodies and dNTM infections is protracted and recalcitrant. In addition to microbial infections, the other common clinical presentations include neutrophilic dermatoses and T-cell/macrophage linage-associated malignancies. In the future, further study is needed to elucidate the characteristics of this disease.

PS 2-524

THE EFFICACY OF IMPLEMENT NATIONAL LATENT TUBERCULOSIS INFECTION TREATMENT PROGRAM IN A REGIONAL HOSPITAL IN SOUTHERN TAIWAN

Chun- hui Wu [a], Wu Sun [a], Tsung -Sheng Yang [b], Ya- Ching Chang [c], Hung -Chun Chou [c], Wen- hui Chen [d], Yu-hsia Yang [d]. [a]*Infection Control Department, Paochien Hospital, Taiwan;* [b]*Strategy Planning Office, Paochien Hospital, Taiwan;* [c]*Centers for Disease Control, Taiwan;* [d]*Department of Health, Pingtung City Government, Taiwan*

Purpose: Through this study to understand the status and efficacy of implementation of latent tuberculosis infection (LTBI) treatment program in our hospital during 3 years period.
Methods: Including cases fit the criteria for national LTBI treatment program from 2011 to Aug. 2014 under 13 years/old, through descriptive statistics to understand the current status and efficacy in our hospital.
Results: The total number of cases exanimated in our hospital was 657, and numbers fit the criteria for inclusion was 545 (82.9%). Positive tuberculin skin test (TST) within first month was 190 cases (35%), and positive conversion at the third month 139 cases (39%), totally 329 cases need to be treat for LTBI. Family accepted to start LTBI treatment was 230 (85%), and the number that should completed treatment at the end of this study was 203, and actual completed treatment was 200 (98.5%).
Conclusion: Taiwan is country with high burden of TB, the treatment of latent tuberculosis infection is an important strategy to further reducing tuberculosis occurrence. During study period, we found 2 new TB cases via contact screening in 2011, and 3 cases had side effect of itchy skin. We think detailed and repeat education to the families with comprehensive case management and follow-up is the most important methods to improve the compliance and efficacy of LTBI treatment program.

PS 2-525

SALVAGE THERAPY FOR REFRACTORY PULMONARY TUBERCULOSIS BY TREATING CMV PNEUMONIA: A CASE REPORT

Mei-Yu Su [a], Wen-Liang Yu [a,b]. [a]*Department of Intensive Care Medicine, Taiwan;* [b]*Chi-Mei Medical Center, Tainan City, Taiwan*

Purpose: Cytomegalovirus (CMV) infection occurs in 0 to 36% of critically ill patients, mostly between 4 and 12 days after intensive care units (ICUs) admission. Co-infection of miliary tuberculosis and CMV infection was reported in Taiwan. We report a case of pulmonary tuberculosis (TB) with delayed negative conversion of acid-fast bacilli probably due to co-infection of CMV.
Case report: A 66-year-old man of liver cirrhosis suffered from respiratory distress. Laboratory data showed leukocytosis (WBC: 19,900/μL); and C-reactive protein, >250 mg/L. Chest CT showed suspicious TB. Acid-fast stain (AFS) showed positive (4+). He was admitted to intensive care unit (ICU) on July 29, 2014. He received endotracheal tube insertion with mechanical ventilator use due to respiratory failure. CXR showed multiple opacities were noticed in bilateral lung fields, compatible with TB infection. Antibiotics with Tazocin and anti TB with rifater and ethambutol were given. Anti-TB therapy changed to rifinah and pyrazinamide due to liver function impairment. Streptomycin was given from August 23 to September 17, 2014, due to persistent positive AFS. MTB Quantitative PCR showed 10^7 CFU/mL and no RIF Resistance. Blood and sputum CMV-PCR showed positive, CMV viral load showed 258 IU/mL. Aspergillus Ag showed 0.23 Index. Anti-CMV treatment with ganciclovir iv was used for 2 weeks. MTB Quantitative PCR showed 10^7 CFU/mL and no RIF Resistance. Blood and sputum CMV-PCR showed not detected, CMV viral load showed <137 IU/mL. Then valganciclovir po was used for 4 weeks for CMV pneumonitis. Left pneumothorax happened and pig-tail was inserted from August 9 to August 25, 2014. He was transferred to RCC due to ventilator dependent on August 25, 2014. CXR showed no pneumothorax on October 14, 2014. Sputum AFS was still positive and we added antibiotic with levofloxacin for pulmonary TB and sputum culture showed *Stenotrophomonas maltophilia*. Minocin oral form was prescribed for sputum. After treatment, lung condition got much improvement. He was transferred to RCW for ventilator department.
Conclusion: CMV co-infection could be considered for patients with refractory pulmonary TB and anti-CMV therapy may improve clinical outcome.

PS 2-526

RITUXIMAB THERAPY IN 3 PATIENTS WITH DISSEMINATED NON-TUBERCULOUS MYCOBACTERIAL INFECTION AND CONCURRENT ANTI-IFN-γ AUTOANTIBODIES

Wen-Chi Huang [a], Jing-Ya Ding [b], Ming-Chung Wang [c], Jien-Wei Liu [a], Yi-Chun Chen [a], Chih-Yu Chi [d], Cheng-Lung Ku [b], Chen-Hsiang Lee [a]. [a]*Division of Infectious Diseases, Department of Internal Medicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan;* [b]*Graduate Institute of Clinical Medical Sciences, Chang Gung University, Taoyuan, Taiwan;* [c]*Division of Hematology, Department of Internal Medicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan;* [d]*Section of Infectious Diseases, Department of Internal Medicine, China Medical University Hospital, Taichung, Taiwan*

Purpose: Autoantibodies against IFN-γ is an emerging medical issue and linked to disseminated mycobacterial infections and other opportunistic infections in the Southeast Asia. The origin of these autoantibodies is unclear; however, the majority of affected patients share specific HLA class II alleles and this observation suggests a common mechanism in the production of auto-antibodies may exist. Persistent or refractory infection seems to be the consequence of patients with disseminated non-tuberculous mycobacterial (NTM) infection and concurrent anti-IFN-γ autoantibodies even received anti-NTM antibiotics treatment. Depletion of autoantibody to IFN-γ by rituximab (anti-CD20) therapy were been reported in some patients and they had clinical and laboratory evidence of clearance of infection and diminished anti-IFN-γ autoantibody. However, more evidences are required to show the efficacy and cost-effectiveness of B cells depletion therapy in this disease.
Methods: We presented clinical courses of 3 patients (P1-3) with disseminated NTM infection and concurrent anti-IFN-γ autoantibodies. Besides standard anti-NTM antibiotics treatment, they all received four doses of rituximab therapy. The titers of anti-IFN-γ auto-antibodies, ex vivo IL-12p40 production in whole blood stimulated by IFN-γ, inflammatory titers, and clinical response in these 3 patients after rituximab therapy were analyzed.
Results: P1 and P2 showed no significant difference of anti-IFN-γ autoantibody titer in blocking assay (efficacy 50%) and had no response to exogenous IFN-γ stimulation in whole blood samples after received the rituximab therapy. However, P3 had decreased the blocking titer and showed a significant response to endogenous IFN-γ activation in term of IL-12p40 production. Unexpectedly, all 3 patients presented with shrinkage sizes of involved lymph nodes by computer tomography (CT) study despite of consistent autoantibodies levels in P1 and P2. P1 and P3 had continued anti-NTM antibiotics treatment for 19 months and 30 months, respectively. P2 had cutaneous NTM infection and disappeared 2 months after rituximab therapy, when completed 3-month anti-NTM antibiotics. However, P2 had recurrence of cutaneous lesions 5 months after discontinuing antibiotics. P3 had cervical spondylitis involving C5 and C6 with compression signs around 6 months after rituximab therapy. CT-guide biopsy showed negative culture for NTM, indicated immune reconstitution syndrome-related progressive of symptoms, rather than recurrence of NTM infection.
Conclusion: We showed here the clinical benefit of rituximab therapy in combined with antibiotic regime in three patients with disseminated NTM infection and concurrent anti-IFN-γ autoantibodies. The improvement of clinical signs might not associate with the decreasing of anti-IFN-γ autoantibodies measured in vitro. Short-course regime of rituximab therapy might have good efficacy and cost-effectiveness to treat this disease.